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ABSTRACT

This study investigates how children, who have acquired a basic speech repertoire, introduce dialogues and how they then pursue their communicative purpose in the course of interaction. The subjects were 20 kindergarten children and 20 second graders, ranging in age from 5 to 5 1/2 and from 7 to 7 1/2. The significant questions pursued were: (1) How do children encode different intentions? Do they consider the position of the other partner in the process? (2) What social influence techniques do they use to achieve their communicative goal? (3) How do children react when their efforts fail? Each child interacted with a doll named Felix. (The experimenter spoke for the doll.) Five illocutionary acts were examined: asking, commanding, permitting, forbidding, and promising. Results are discussed in terms of how well the children succeed in their verbal realization of the various performatives; what speech indicators the children use to mark the illocutionary role; how the children change their social influence strategies as a reaction to the negative feedback loops; and how the children realize their intentions vocally and with gestures. (MS)

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Analysis of short-term dialogues in 5-7 year olds: encoding of intentions and modifications of speech acts as a function of negative feedback loops.

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Dialogue is the basic form of speech behavior. The ability to communicate effectively does not only depend on the construction of well-formed sentences: the speaker must also be able to anticipate the reactions of his communication partner on the basis of his own differentation of the other's role characteristics - just as the latter must adjust to the speaker to understand his message and to be able to answer it. The interplay of action and reaction requires the partners to repeatedly construct hypotheses during the process of interaction as to the intentions of the other. Thus the structure of dialogue is subject to continuing change.

There is as yet no comprehensive answer to the question as to how the child acquires this communicative skill. Since until now the child's verbal behavior was primarily considered on its own, we still know very little about the developing differentiation of dialogue structures and the rules involved in short-term and long-term changes. No single study can hope to encompass this complex issue: the necessary evidence must be collected step by step. This study is supposed to represent one of these steps. The issue here is to find out how children, who already have acquired a basic speech repertoire, introduce dialogues and how they then pursue their communicative purpose in the course of interaction. Here, the significant questions are the following: a) How do children encode different intentions? Do they consider the position of the other partner in the process? b) What social influence techniques do they use to achieve their communicative goal? More specifically: what verbal and non-verbal means do they employ to persuade their communication partner or to convince him of something? c) How do children react when their efforts fail? Do they succeed in taking over the other's perspective and in using the informations given within the interaction sequence to recode their original messages so that the probability of success is maximized?

Before we introduce a new methodological approach to answer these questions we would like to specify the scope of a communication model in order to clarify the theoretical significance of this study.

The structure of dialogue is the result of interrelations among syntactic, semantic, and pragmatic rules. For a description of the structure, a multifactorial model should be used which must at least contain the following variables:

1. Speaker-listener relationship. A mutual relationship exists between these two. Both partners are alternately subject and object of the utterance. Whether a dialogue takes place at all, how it is introduced and continued depends on the constant and changing qualities of the communication partners. Significant here are among others cognitive and speech abilities and sociological characteristics.

2. Topic. How the speaker begins a dialogue and what means of expression he uses also depend very much on what he wishes to let the other know. Every dialogue begins with an intention in analogy to the symbol "sentence" in generative grammar. The intention, like the sentence, is consequently transformed into concrete behavior by means of various rules. In order to comprehend this function-structure relationship as a unit with its internal prerequisite, Segal and Stacy (1975) introduced the term "act" which they define similarly to the Test Operate Test Exit (TOTE) unit according to Miller, Galanter and Pribram (1960).

3. Context. Communication always occurs within a general context which must be included in the analysis. Since the same expression can have different meanings in different situations, speech behavior units must be directly related to structural elements of the communication situation.

4. Means of expression. Communicative behavior does not first begin when a child starts to speak. According to Halliday (1975) speech occurs when a child starts to use meaningful expressions, and that happens quite early. For a pre-verbal child already employs vocal, gestural and mimical means to initiate and maintain social interactions long before it has learned words and structures (cf. Hogan, 1975).

There already exist several studies on the earliest stages of this communicative development (cf. Bates, 1974, Carter, 1974). However there is still little information as to what transformations early performatives like declaration and request undergo. The question is, how non-linguistic expressions are transformed first into one-word performatives then to become complexer grammatical structures.

One of the most fundamental insights of these newer communication studies is the role-theoretical point of view which is very precisely advocated by Hogan (1975). In contrast to the individualistic assumption according to which a child gradually replaces its originally egocentric perspective with a relativistic one in the course of its development, he assumes that children are already sociocentric at birth and that they, in their active search of social contact, very quickly develop a whole number of conventional rules to introduce and maintain interactions. He states: "Children may come into the world preprogrammed to accept a wide variety of seemingly arbitrary rules, including those that govern social interactions as well as speech, dress, and dietary customs" (Hogan, 1975, 537). This assumption contradicts Piaget's and Flavell's concept of communicative egocentrism. I shall return to this point later.

In this study, the question as to how meanings are realized will be approached experimentally in contrast to the studies which exist to date. Three of the above-mentioned factors will be controlled in order to be able to compare the achievements of the children: the intentions, the children's communication partner and his reactions.

1. Intentions. The five following illocutionary acts are examined: asking, commanding, permitting, forbidding and promising. The child's task is to make its partner do or not do something as well as to convince him that it wants to do something itself.

   These performatives are chosen for one thing because they are acquired at different phases of the child's development.

Thus, the child starts requesting or rejecting much earlier than it is ready to engage in a commitment as would be the case with the performatives permitting and promising. On the other hand, two studies already exist concerning the understanding of grammatical structures with several of these verbs (cf. C.Chomsky, 1969; Grimm and Schöler, 1975). The results of these studies show the difficulty grades to be as follow: permit < command < promise < ask. An important point now is how to make this result concordant with the observations in our study. This question must be discussed on the theoretical background of a possible connection between the psycholinguistical and the functional approach.

2. Communication partner. The child's partner is a big doll called Felix which can move its mouth and ears. Flavell (1975) showed that children do not necessarily need a "real-life" partner to react adequately in communication and role-taking tasks.

3. Reactions. The experimenter makes Felix react with standardized increasing refusal to the children's utterances. This means that every time the doll behaves rejectingly, its rejection is slightly reinforced. Figure 1 shows that each dialogue consists of three such negative feedback loops so that a whole interaction sequence is made up of seven adjacent speech acts.

- Figure 1 -

As the careful reader may already have noticed, the use of the terms "speech act" and "illocutionary act" indicates that this study bases upon Searle's (1971) theory. Since our point of view is functional, an isolated utterance cannot serve as an analysis unit as is the case in studies concerning grammatical development. On the contrary, one must search for a complexer unit in the sense of a verbal behavior episode (cf. Moerk, 1975). This is best represented by the illocutionary act as defined by Searle: F(p). The variable "F" is represented by values which serve as indicators for the illocutionary role; "p" is to be replaced by expressions for propositions.

When simple subject-predicate sentences are involved, F(p) may be extended to: F(R, P), whereby "R" stands for reference and "P" for predication. Furthermore, Searle calls the effects of a speech act on the listener perlocution. This connection between the structuralistic and the functional point of view makes it possible to analyse the speech acts as elements constituting dialogue on different organization levels and to refer these to each other.

Method

Subjects: 20 kindergarten children and 20 second graders served as subjects. The children ranged in age from 5-0 to 5-6 and from 7-0 to 7-6. The kindergarten children consisted of 11 girls and 9 boys, the second graders of 6 girls and 14 boys.

Material. The children were told 8 short stories which had proved to be most adequate in pretests in order to evoke the desired intentions. The corresponding performative verbs did not occur in the stories. The sequence was kept the same for all children: asking for something, forbidding, permitting, commanding, asking for something, forbidding, permitting, promising.

An example for the item "asking for something" is: "You are on a playing ground with Felix. He is sitting on the swing and you're on the slide. Now you'd like Felix to let you swing too. What do you say to Felix?"

An example for "forbidding" is: "You want to go visit someone and have put on your best clothes. Felix is smearing paint all over and would like to smear you too. You don't want him to paint you. What do you say to Felix?"

The RAVEN test was additionally administered as a non-verbal test.

Procedure.* The child sat with the experimenter and the doll Felix at a table. A little further away sat a student who recorded all the gestures and mimic of the child on an observation sheet. The child was first introduced to Felix. The experimenter explained that she would speak for Felix. The child was also told something about Felix' character in order to thus prepare it indirectly for the following feedback loops.

After the performance of one practice item, the child received a chip as reinforcer and it was promised further chips which it could later exchange for a toy.

The test phase was introduced with the following instruction: "We are now going to play stories which I made up. You and Felix are in these stories. You know that Felix is sometimes shy and sometimes stubborn and that you must keep talking to him over and over again. You speak with him so long until you receive a new chip."

*The experiment was carried out and computed by Henrike Selling as part of her diploma.

Felix reacted to the children's utterances in a standardized manner with a systematical increase of the negative feedbacks: the first reaction always consisted of a simple affirmation or negation: "I want to paint you" or "I don't want you to swing" for the items "forbidding" and "asking for something". The systematical increase consisted of reinforcing the initial utterance with modifications. For the negations the first additional reinforcer was "doch nicht" (rather not), the second was "doch noch immer nicht" (still not). For the affirmations, the reinforcers were "doch" (rather) and "doch noch immer" (still) (cf. Fig. 1)

Evaluation. The tape-recorded verbal utterances were tranferred to record sheets. They were classified according to the following categories:

RB: Disregard of the "rules of the game". For example, the children do not address Felix directly,or they ignore the contents of the story.
R: Reference
ST: Sentence type
SC: Sentence construction: complete or elliptical
M : Modal verbs
Mo: Modifications
B : Basic sentence which does not change within a dialogue structure
A : Additions to the basic sentence like arguments and threats
WN: Number of words per speech act

The paralinguistic and non-linguistic behavior was classified as follows:

S : Stressing
L : Loudness
M : Melody
CC: Attempts at contact
AG: Aggressive gestures
G : Gestures which stress the verbal utterance specifically

The evaluation of the illocutions was made on a 19-point scale. This allows us to note whether the child maintains the intended illocution in the interaction sequence, what related illocutions it uses and whether it has changed illocutions.

Results.

(1) How well do the children succeed in their verbal realization of the various performatives? According to the distribution of the inadequate utterances in Table 1, it holds generally that asking, commanding and forbidding is easier for the children than permitting and promising. This result is in accordance with observations on the early acquisition of directive expressions (cf. Ervin-Tripp, in press). However it partially contradicts the results of psycholinguistic comprehension studies. The reasons for this will be discussed later.

- Table 1 -

The significant differences for asking and permitting show that it is easier for the schoolchildren than for the kindergarten children to encode this intention adequately. On the other hand schoolchildren react inadequately in up to 40% of the utterances for promising. What is it actually that renders the speech acts inadequate? There are principally two possibilities: one, the children do not observe the "rules of the game". They ignore the contents of the story, do not address Felix directly or go "out of the field" during the interaction sequence. All mistakes in asking and commanding as well as by far the greatest amount of mistakes in forbidding and permitting represent such rule-breaking. Here, the following difference is of interest: older children tend to break out of the interaction as a result of Felix' negative answers only at the end of the sequence, while the preschoolers tend to break the rules already at the beginning. This holds especially for the items asking and permitting (cf. Fig. 2a,2c).
However most of them still do succeed in adequately encoding the act of asking after the first feedback; yet they all continue to fail with the performative permitting. The reason for this cannot be found alone in the contents of the given story since the school children perform much better on this item. Two, there is a continuous high-failure frequency for promise. To a great extent, the second type of mistake consisting of illocutionary change is responsible for this. Instead of fulfilling an obligation towards their partner, the children want something of him themselves (cf. Fig. 2e).

- Fig. 2a - 2e -

Next to such clear cases which show that the conditions for these illocutions were not understood at all, three further patterns of interaction are of interest: one, though the older children may introduce the dialogue with a promise, then they change to a simpler illocution after having received the first feedback. This means that they do not renew their initial commitment. However this change only occurs with few children. The opposite

case is more frequently observed: after first having asked an egocentric question, the school children notice their mistake at Felix' first reaction and change their strategy. The third significant difference between the age groups consists in the fact that the younger children express a desire or a request instead of a promise whereas the older children transform the contents of the story into a demand which is often merely rhetorical. The answer to the next question shows that this difference is not accidental but on the contrary is the manifestation of a general tendency:

(2) What speech indicators do the children use to mark the illocutionary role? Not once do they use a performative verb. The most important indicators are the sentence types and the modal verbs used (cf. Tables 2 and 3).

- Table 2 -

What is most apparent in Table 2 is that in otherwise equal distributions the preschoolers form much more imperatives than the school children for the items asking2 and forbidding2 which follow the item commanding in the item sequence. These differences are significant (asking2: $Chi^2=7,24, p<.01$; forbidding2: $Chi^2=5,13, p<.05$). If one compares these distributions with those of asking1 and forbidding1 one can see how the acts of asking, commanding and forbidding become increasingly similar to one another in the item sequence and within the single dialogues (cf. Fig. 2a,2b,2d). School children display this tendency scarcely or not at all. Though also quite a lot of them introduce their second request or their second prohibition with an imperative, they usually switch to a more adequate sentence type after the first feedback. In contrast to the preschoolers who generalize towards a main type of demand, the school children have learned something quite different from their experience with Felix' negative reactions: they ask for something in a still friendlier way and formulate their prohibition with great reserve. The kindergarten children on the contrary encode their second prohibition more than three times as often as a negative command: "You must not ...!"

This difference as well as the following two points make it clear that the older children have already learned the basic conventional rules of social interaction: first, they address Felix much more frequently by name and use the nice little word please, a word which seems to be unknown to preschoolers at least in this situation. Second, they use more indirect speech acts. This difference is significant for the items asking and permitting ($Chi^2=6,46, df=2, p<.05$). Thus, they may allow or forbid Felix to swing in the following way: "I don't mind you swinging" or "I'd prefer you not to swing". In contrast to this the small children prefer the direct form: "You can swing" and "You must not swing". If one compares the referential parts of the propositions, it may be seen that for asking2 the preschoolers' formerly balanced relationship of speaker-listener-reference has been completely transferred to the listener. The school children's relationship, in contrast, has only changed minimally.

- Table 3 -

The assimilation process of the illocutions asking and forbidding to the command form can likewise be observed when following up the use of the modal verbs. Thus the preschoolers use the modal verb must and should three times as often as do the school children (cf. Table 3). After often having introduced their first request with I want X, they change to a clear-cut command at item asking2: You must give me X. This tendency is also effective for forbidding: You're not allowed to do X becomes You must/should not do X.

(3) How do the children change their social influence strategies as a reaction to the negative feedback loops? If one considers the sequences in Figures 2a-2e, one may see three possible forms of change: switching to a new sentence type, introducing ellipses, and bringing up consequences and arguments. Next to these main sequences there are of course a lot of subforms which however very few children construct and which can thus be neglected.

We only intend to discuss the third form here. During the interaction the school children try to convince Felix signifi-

cantly more often than preschoolers using arguments or promises of reward or punishment ($Chi^2=8,41$, $df=3, p<.05$).
In the arguments which they partly pick up from the stories they were told, but which they also partly make up, the antecedent-consequent relationships are made explicit to a great extent by the conjunctions (if)-then and otherwise. This only occurs in one case out of the ten arguments given by preschoolers.

Only the older children use the further technique of promising Felix a reward if he does what is requested of him; the preschoolers restrict themselves to threatening him with negative consequences. Thus these three forms of persuasion: threat of negative consequences, promise of reward, and conveyance of insight seem to me to be psychologically relevant indicators for the development of role-taking ability.

I would like to point out two further differences: first, the school children, reacting to the negative feedback loops, construct significantly more often completely new utterances to accomplish their intention ($Chi^2=33,51$, $df=3$, $p<.001$). This already is demonstrated by the frequent use of arguments. In contrast to this preschoolers mainly use simpler means when recoding in that they abbreviate their initial utterances elliptically or add modifications like the adverbs aber doch, auch mal (but, yet, also).

The results we have reported up to now allow us to define two variability measures. These measures express whether the children modify their speech acts at all in answer to the feedback loops, and what level of differentation these changes show. Correspondingly, Variability I is defined by every form of change, whether the introduction of ellipses, pronominal forms or completion by modifications etc. are concerned. Variability II obeys stricter criteria: only utterances containing a new proposition are considered. This includes arguments and consequences which are added to a basic sentence already expressed.

If every modification counts as 1 point, a theoretical value of 32 results, since each of the 8 dialogue structures includes 4 speech acts of the child. The comparison of this value with the values obtained shows the following results: the preschoolers

have a mean of 25 for the Variability measure I and thus do not deviate much from the school children's mean of 29. This means that all the children reacted to the feedback in most of the cases with some kind of modification of their initially expressed messages. However, the Variability measure II shows that there is a qualitative difference in their recodings: here, the preschoolers only obtain the value of 13,6 in contrast to the school children's value of 20,1.

In conclusion of this point I would just like to note that the correlations between these two measures and the RAVEN only fluctuate from .01 - .25, thus indicating no relationship. I shall return to this point as well as to further correlations in the discussion.

(4) How do the children realize their intentions vocally and gestically? This last question can only be answered in a very general way since the observation data are quite rough.

In the course of the interaction process all the children reinforce their verbal utterances with increasing vocalisation. When they ask for something they especially change the melody, and when they command and forbid they become louder. A conspicuous difference between the two age groups is that the older children much more purposefully stress single parts of the sentence in order to show the listener what is really important (cf. examples in Fig.2). The corresponding observation also holds for gestures: the seven year-olds emphasize their intentions with hand and head movements whereas the preschoolers rather seek physical contact with Felix (!). The fact that non-verbal means are used especially when the verbal ones are not sufficient to stress an intention becomes most clear for the item promising. Here, the relationship between minimal verbal variation and much use of non-linguistic means is highly significant ($Chi^2 = 13,13$, $p < .001$).

Discussion.

The goal of this study was to find out something about the means children use to accomplish their intentions with respect to a partner. The method employed was successful with the children;

they accepted Felix immediately and played the game with enthusiasm. Of course one cannot generalize the results here obtained because the experimental situation was too limited for this. Therefore, the results must be completed and extended systematically in further investigations. The following research strategy seems to me to be most promising of success: (a) this or similar experiments should be carried out with younger and older children; (b) the variables and variable domains should be successively extended; (c) the experimental data should be completed by data from observational studies.

Although I stress the necessity of experimental research this does not mean a disqualification of observational studies. These are necessary. However, I would like to plead that experiments are just as necessary, a fact which some researchers obviously do not see.

The successive difficulties in the use of performatives found in this investigation: command < forbid < ask < permit < promise concord only partly with the successive difficulty: command verbs < promise < request verbs which C.Chomsky found on the basis of comprehension experiments in 5-10 year-olds. The results of Grimm and Schöler indicate a further essential difference: permit < command < promise. But there is also an important accordance: just as the children find it more difficult to understand sentences with promise than sentences with command verbs, they also find it more difficult to encode the illocution of promising. This makes it clear that it is not sufficient to interpret the differing complexity of the performatives merely in syntactic terms. However, C.Chomsky seems to think so when she wants to reduce the increasing difficulty of the following structures to the consistent or inconsistent violation of minimal distance principle (MDP):

NP_1 tell NP_2 to inf vb
NP_1 promise NP_2 to inf vb
NP_1 ask NP_2 to inf vb.

However sentence structures with permit and command show quite clearly that this syntactic explanatory principle is not sufficient. The MDP holds for both verbs and yet they differ in their level of difficulty. However, and this is especially important, the comprehension experiment and the production experiment lead to contradictory results as to which of the two performatives is complexer. What are the reasons for this? The commonness of the verbs certainly plays an essential part. This experiment showed quite clearly that these performative verbs are not in the children's productive repertoire, and this can also be confirmed by observational data. Thus, I could not find a single one of the performative verbs in question in more than 10 000 utterances of 2-6 year-olds.
Still, the children performed the corresponding illocutionary acts; they requested something from their partner, permitted him to do something and also promised him something. But they didn't say to him: "I ask you to come here", "I permit you to caress the doll" or "I promise you to come". Instead they said: "Hey, come here!" "You may caress the doll", "I'll be sure to come".

But this difference does not yet explain why (a) sentence structures with permit are easier to understand than identical structures with command and why (b) it is more difficult on the other hand for the children to permit their partner to do something than to command although thay have neither heard the performative verbs in the stories nor have they used them in their own speech acts.

It will only be possible to answer this by connecting the psycholinguistic point of view with the functional one. For both apparently refer to completely different aspects of speech behavior which also have different cognitive and linguistic prerequisites. On the one hand the complexity results from grammatical structure features and from the degree of commonness of the performative verbs, on the other hand the complexity must be defined in role-theoretical terms. Thus, the two following questions must be asked in order to bring both aspects together: (a) do the

children understand complex sentences with performative verbs if these are not isolated and out of context but rather occur within a concrete action? (b) What in-between forms does the child need to learn to express performatives in such complex sentences as were examined in the comprehension studies? Is it so that complex structures are first appointed to the earliest acquired performatives or does the structural differentation rather follow the degree of difficulty established on the basis of grammatical considerations?

These questions concerning the changing structure-function relationship require us to analyze verbal behavior on different organization levels; only in this case can we refer the different ability aspects to one another. A reason for the fact that this was only partly successful up to now is that most of the investigtions have limited themselves to the earliest stages of communicative development.

In this experiment it was shown that 5-7 year-olds are perfectly capable of introducing dialogues adequately and of pursuing their communicative goal during the interaction. Despite their mistakes and despite the fact that their reactions to Felix' refusals are often quite primitive, generalising and as yet socially little adjusted, it is justified to conclude that the children have essentially understood both their own role and Felix' role. This supports Hogan's (1975) role-theoretical position and is also concordant with results from Mueller (1971) and Borke (1972,1973). While stressing the much neglected factor of "listener engagement" for the maintenance of verbal interaction, Mueller states: "preschool children are interested in communicating with one another and do so quite successfully in the free play situation". Thus, small children's verbal behavior is not exhausted in monologues up to approximately 60% as Piaget assumes! Borke also objects to this assumption when she establishes on the basis of her cross-cultural research that the prerequisites for successful communication, sensitivity and empathy already begin to develop quite early. What consequences result from this for Piaget's (1945) concept of egocentrism?

In my opinion there is only one answer to that: there is no general construct of egocentrism. Speaking is not just a by-product of action without its own communicative function. It is not so that a lack of cognitive perspectivity necessarily includes a lack of social perspectivity. The egocentrism of a child's way of thinking does not simultaneously imply that it is unable of distinguishing its own position from the partner's and of reacting to him in communication situations. In favor of that is the fact that there was no correlative relationship between the RAVEN and both variability measures in the present investigation. Rubin's (1973) correlation study also suggests that it would be better to postulate two egocentrism concepts, a cognitive one and a social one. For she found high correlations between the variables "role-taking", "conservation", "communicative", and "spatial egocentrism", but could only establish a weak relationship between these variables and the variable "cognitive egocentrism". The positive correlations between Variability measure II and the measures of the flexibility of labeling which we obtained in another investigation with the same children all go in the same direction. These measures express the ability to code constant objects variably with each different communication partner. Since this type of task is very similar to Olson's paradigm (1970) we had expected a positive correlation with the RAVEN, but this was not the case either (cf. Grimm, 1975).

If one assumes that the small child's inability to decentralize is not coupled with a completely individualistic point of view, the question arises how to define social egocentrism. For this point it can be established that social egocentrism affects the next level when the child has to anticipate its partner's informational need. That this ability is only acquired gradually is exemplified by the fact that small children very often use pronouns without reference (cf. Grimm, 1973).

It would be necessary to say much more about the differences and similarities of the constructs. Unfortunately, this is impossible here. To conclude this point, I would therefore just like to show what role the construct of egocentrism plays for Flavell (1975).

Flavell wants to combine the individualistic aspect with the role-theoretical one. In this he does not quite succeed. If one considers his model of communication which essentially bases on two conditions for a successful communication: (a) on the ability stressed by Piaget to discriminate someone else's role characteristics, to compare them with one's own and to use the result of this comparison as a basis for adjustment. (b) The second condition was originated by Wygotsky (1962), according to whom an adequate communicative message requires the recoding of a preceding private self-coding. In the dynamical process of transformation from the condensed inner language to a syntactical articulated speech, he assumes that there always exists the danger of falling back into self-coding. Correspondingly, Flavell sees two possible forms of egocentric communication: first, the child expresses its unchanged self-coding; second, the child first recodes his message under observation of the role characteristics of the listener, but then cannot keep this up and falls back on the egocentric position.

A comparison of this model with the demands as postulated above leads to two weighly objections against Flavell. One of the objections concerns the definition of self-coding (Flavell, 1975, 45): Speaker S cognizes datum X and codes it covertly, so that it becomes meaningful for himself and communicable. This means nothing other than that Flavell believes that the child is originally asocial. Thus he did not overcome Piaget's communicative egocentrism. For this, he would have had to define the egocentric component as a partial component of "S codes X for L (listener)". This individualistic position is further expressed in his one-sided definition of communication in which he completely disregards the basic aspect of the dialogue, nameley the fluctuation between assertion and contradiction. This is even true for his investigation on persuasive communication. This is why role-taking too is seen as a one-time occurrence and the model does not live up to the fact that during the communication process between partners the assumptions one first has about the other must continually be verified, corrected or even completely rejected.

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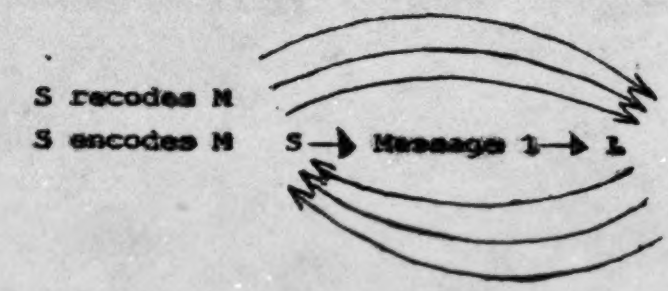

S recodes M
S encodes M
S → Message 1 → L
Feedback 1: full sentence
Feedback 2: plus: doch(nicht)
Feedback 3: pluss doch noch immer(nicht)

Figure 1 Encoding - negative feedback - recoding pattern.

Ss	ask	command	forbid	permit	promise
5-0-5-6	18%	7,5%	18%	49%	42,5%
7-0-7-6	5%	7,5%	9%	14%	45 %

$p < .05$ $p < .001$

Table 1 Imperative utterances to the 5 illocutionary acts.

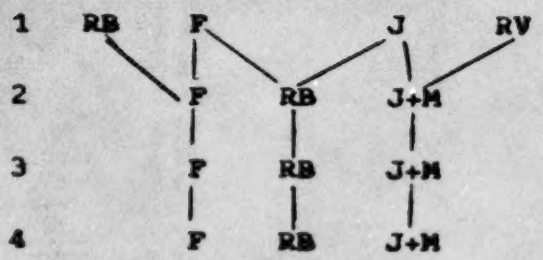
Ss	ask 1 A	I	F	forb.1 A	I	F	per.1 A	I	F	com. A	I	F
5-0-5-6	26	15	18	38	12	-	27	4	o	1	60	1
7-0-7-8	22	20	16	50	9	1	48	6	6	5	50	o

Ss	ask 2 A	I	F	forb.2 A	I	F	per.2 A	I	F	prom. A	I	F
5-0-5-6	1	49	11	22	43	-	39	1	1	52	5	7
7-0-7-6	1	14	28	25	22	1	37	13	4	42	7	8

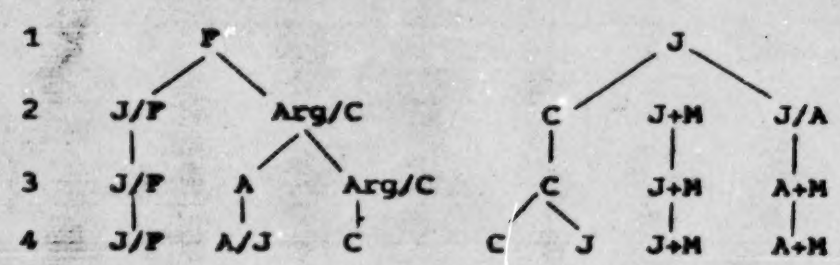
Table 2 Number of affirmative(A), imperative(I), and interrogative(F) sentences for the illocutions of asking, forbidding, commanding, permitting, and promising.

modal verbs \ Items	ask 1	forb.1	per.1	com.	ask 2	forb.2	per.2	prom.
like want	27(23	6(2)	3(14)	2(2)	-(12)	3(3)	6(14)	15(-)
must should	12(1)	11(11)	3(-)	48(16)	29(4)	38(7)	1(3)	4(1)
able allowed	1(2)	21(26)	19(29)	-(-)	4(-)	16(14)	26(24)	7(5)

Table 3 Absolute number of the modal verbs used in the item series. The data of the school children are in parentheses.



Preschoolers



Schoolchildren

Examples.

Sequence F-F-F-F:

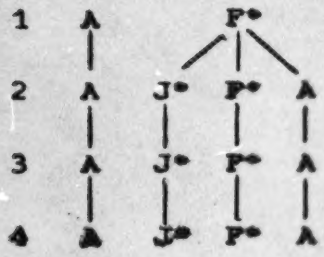
1 Läßt du mich auch einmal schaukeln?
2 Läßt du mich schaukeln?
3 Läßt du mich schaukeln?
4 Läßt du mich jetzt schaukeln?

Sequence F-Arg/C - A - A/J:

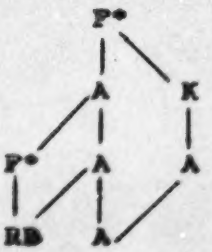
1 Felix, läßt du mich auch einmal schaukeln, bitte?
2 Dann kannst du doch von der Rutschbahn runterrutschen.
3 Ich möchte auch mal schaukeln, nicht nur immer du.
4 Aber du mußt!

Figure 2a Main sequences for asking. The numbers 1-4 mark the speech acts during interaction. F = Question, I = Imperative, A = Assertion, Arg. = Argument, C = Consequence, M = Modal verb, RB = Rule-breaking.

Preschoolers



Schoolchildren



Examples.

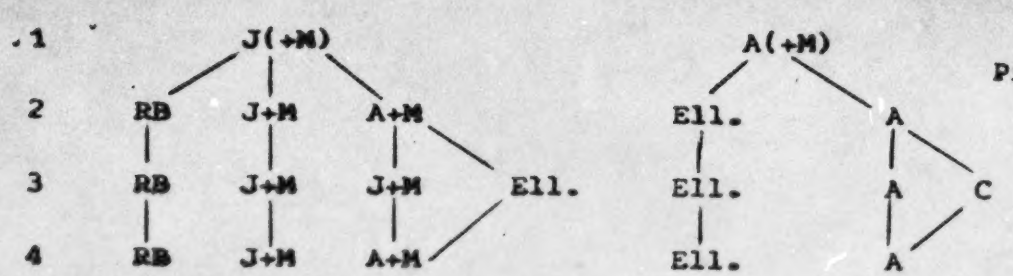
Sequence A – A – Arg – A:

1 Aber ich komme bald wieder zurück
2 Ja, aber ich komme bald wieder zurück
3 Warum kannst du's mir nicht ... ehm ... mir nicht glauben?
4 Ja, aber ich komme bald wieder zurück

Sequence, P°– A– A– A:

1 Felix, darf ich einmal mit deinem Kettcar fahren?
2 Nein, ich fahr doch hier nur ein bißchen rum.
3 Du darfst auch gleich wieder drauf gehen.
4 Du <u>mußt</u> es mir aber <u>glauben</u>.

Figure 2: Four sequences with promising.



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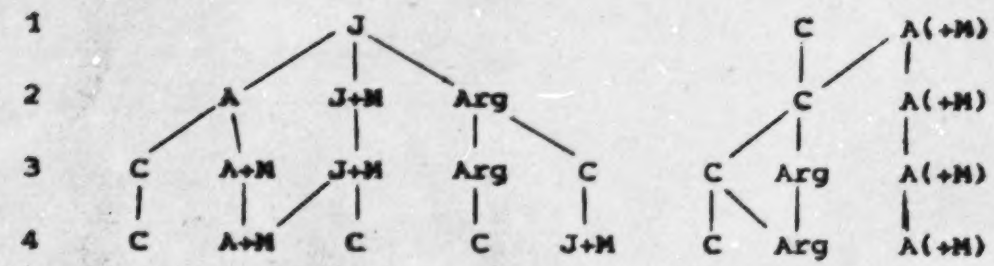


Schoolchildren

Examples.

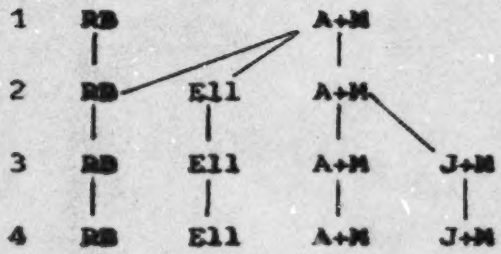
Sequence C-C-C-C:

1 Wenn du mich anmalst, dann male ich dich später auch an.
2 Dann, wenn du mal deine neuen Sachen anhast, dann male ich dich auch an.
3 Dann gehe ich jetzt nach Hause und laß' dich allein.
4 Ich zeige dir auch etwas, gebe dir auch etwas.

Sequence A+M - A+M - A+M - A+M:

1 Nein, du darfst mich nicht anmalen.
2 Nein, du darfst mich nicht anmalen.
3 Du darfst mich nicht anmalen.
4 Nein, du darfst mich nicht anmalen.

Figure 2b Main sequences for forbidding.
Ell.= Ellipse; underlining indicates stress.



Preschoolers

Schoolchildren

Examples

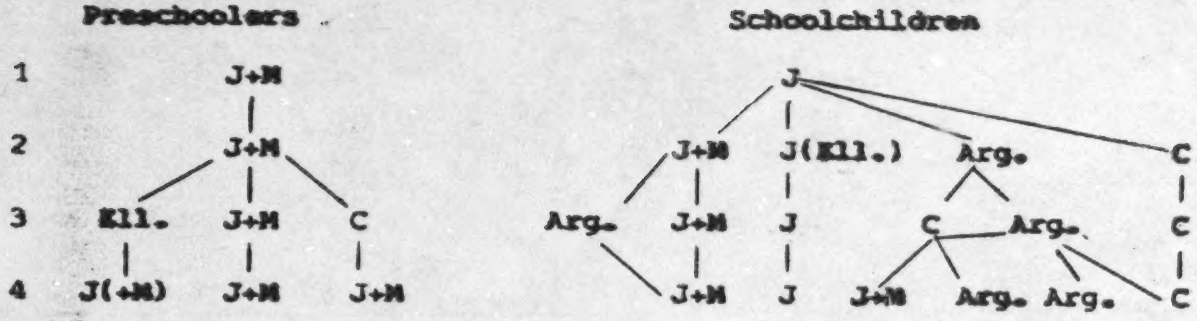
Sequence A-S-A-S-A-S-A-S:

1 Felix, ich habe nichts dagegen, daß du mit meinem Ball spielst.
2 Doch, ich mag es.
3 Doch, ich will's
4 Doch, ich mag, daß du mit meinem Ball spielst.

Sequence A - A-S-A-S-AS:

1 Du kannst meinen Vogel füttern.
2 Doch, ich mag's.
3 Aber trotzdem, ich laß' dich.
4 Aber ich laß dich immer noch.

Figure 2c Main sequences for permitting.
A-S = Assertion with speaker as subject.



Examples.

Sequence J-J/Ell.-J-J:

1 Felix, komm doch aus dem Wasser!
2 Komm doch aus dem Wasser!
3 Komm doch endlich aus dem Wasser!
4 Komm doch jetzt endlich!

Sequence J- C-C-C:

1 Felix, komm jetzt aus dem Wasser raus!
2 Dann frier dich halt um!
3 Dann hole ich dich halt!
4 Dann tauch ich dich unter!

Figure 2d Main sequences for commanding.